

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Shinsuke OKADA et al.

Group Art Unit: 3739

Serial No : 10/774,540

Examiner: M. J. Kasztejna

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For : ENDOSCOPE

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Commissioner for Patents
U.S. Patent and Trademark Office
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Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This appeal is from the rejection of claims 2-7, 15-18 and 21-23, as set forth in the Final Official Action of August 3, 2006, and as maintained in the Advisory Action of November 13, 2006.

A Notice of Appeal was filed on December 4, 2006 in response to the Final Official Action of August 3, 2006, and the extendible two-month period for filing an Appeal Brief was set to expire on February 5, 2007 (February 4, 2007 falling on a Sunday). The requisite fee for filing an Appeal Brief under 37 C.F.R. §41.20(b)(2) is submitted herewith.

However, if for any reason the necessary fee is not associated with this file or the attached fee is inadequate, the Commissioner is authorized to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 19-0089.

(1) REAL PARTY IN INTEREST

The real parties in interest are PENTAX Corporation and Optiscan Pty Ltd., as established by an assignment recorded in the U.S. Patent and Trademark Office on February 10, 2004 at Reel 014980 and Frame 0646.

(2) RELATED APPEALS AND INTERFERENCES

No related appeals and/or interferences are pending.

(3) STATUS OF THE CLAIMS

Claims 1 and 19-20 (Cancelled)

Claims 8-14 (Allowed)

Claims 2-7, 15-18 and 21-23 stand finally rejected and are the subject of this appeal. Appellants Appeal the decision of the Examiner to finally reject claims 2-7, 15-18 and 21-23. A copy of claims 2-7, 15-18 and 21-23 is attached as an Appendix to this brief.

(4) STATUS OF THE AMENDMENTS

No amendments to the claims were filed after the final rejection of the claims of August 3, 2006.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Initially, Appellants note that the following descriptions are made with respect to the independent claims and include references to particular parts of the specification. As such, the following are merely exemplary and are not a surrender of other aspects of the present invention that are also enabled by the present specification as well as those that are directed to equivalent structures or methods.

Independent claim 2 recites an endoscope comprising: an inserting tube to be inserted into a human body; a first optical system fixed in a tip end of said inserting tube for observing in vivo tissues within a human body at a first magnification; and a second optical system fixed in the tip end of said inserting tube for observing the in vivo tissues at a second magnification that is higher than the first magnification, wherein a portion of said second optical system is within the field of view of said first optical system, and wherein a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube.

In this regard, exemplary embodiments of the present specification are shown in FIGs. 1-5 and disclosed at pages 9-18. The exemplary embodiments disclose an endoscope (100) comprising: an inserting tube (10) to be inserted into a human body (paragraph [0042]); a first optical system (81) fixed in a tip end (80) of said inserting tube (10) for observing in vivo tissues within a human body at a first magnification [paragraph [0048]]; and a second optical system (85) fixed in the tip end (80) of said inserting tube (10) for observing the in vivo tissues at a second magnification that is higher than the first magnification (paragraph [0049]), wherein a portion of said second optical system (85) is within the field of view of said first optical system (81) (paragraph [0066]), and wherein a position of said first optical system (81) is fixed in relation to a position of said second optical system (85) within a single inserting tube (10) (paragraph [0048]).

Independent claim 4 recites an endoscope comprising: an inserting tube to be inserted into a human body; a first optical system fixed in a tip end of said inserting tube for observing in vivo tissues within a human body at a first magnification; and a second optical system fixed in the tip end of said inserting tube for observing the in vivo tissues at a second magnification that is higher than the first magnification, wherein said first optical system and said second optical

system are provided on an end surface of a tip body mounted on a distal end of said inserting tube, said second optical system being arranged such that at least a front end portion thereof is protruded with respect to said first optical system, and wherein a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube.

In this regard, exemplary embodiments of the present specification are shown in FIGs. 1-5 and disclosed at pages 9-18. The exemplary embodiments disclose an endoscope (100) comprising: an inserting tube (10) to be inserted into a human body (paragraph [0042]); a first optical system (81) fixed in a tip end (80) of said inserting tube (10) for observing in vivo tissues within a human body at a first magnification (paragraph [0048]); and a second optical system (85) fixed in the tip end (80) of said inserting tube (10) for observing the in vivo tissues at a second magnification that is higher than the first magnification (paragraph [0049]), wherein said first optical system (81) and said second optical system (85) are provided on an end surface of a tip body (89) mounted on a distal end of said inserting tube (10), said second optical system (85) being arranged such that at least a front end portion (85a) thereof is protruded with respect to said first optical system (81) (paragraph [0058]), and wherein a position of said first optical system (81) is fixed in relation to a position of said second optical system (85) within a single inserting tube (10) (paragraph [0048]).

(6) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(A) The Rejection of Claims 2-7, 15-18 and 21-23 under 35 U.S.C. §102(b) over TAKAHASHI et al. (U.S. Patent No. 3,643,653).

(7) **ARGUMENT**

(A) The Decision to Reject Claims 2-7, 15-18 and 21-23 under 35 U.S.C. §102(b) over TAKAHASHI et al. (U.S. Patent No. 3,643,653) is Improper, and the Decision to Reject Claims 2-7, 15-18 and 21-23 on this Ground Should be Reversed.

In the Final Official Action of August 3, 2006, claims 2-7, 15-18 and 21-23 were rejected under 35 U.S.C. §102(b) over TAKAHASHI et al. (U.S. Patent No. 3,643,653). The rejection of each of claims 2-7, 15-18 and 21-23 under 35 U.S.C. §102(b) over TAKAHASHI et al. (U.S. Patent No. 3,643,653) is improper and should be reversed. In this regard, Appellants hereinbelow address the rejection of claims 2-7, 15-18 and 21-23 under 35 U.S.C. §102(b) over TAKAHASHI et al. (U.S. Patent No. 3,643,653) in the order of independent claim 2, dependent claims 3 and 16-18, independent claim 4, and dependent claims 5-7, 15 and 21-23.

(1) **Claim 2**

Claim 2 recites "a first optical system fixed in a tip end of said inserting tube" and "a second optical system fixed in the tip end of said inserting tube". The Final Official Action asserts "as seen in Figure 1 of Takahashi et al., both the first 6 and second 15 optical systems fixed within tubes 4 and 14, respectively, are fixed in the tip end of inserting tube 5". Additionally, the Advisory Action asserts that "[b]oth optical systems of Takahashi are fixed within the same inserting tube (see Figures 6 and 8-9)".

The "elongated tube 4" in TAKAHASHI is not a component of an "inserting tube 5"; rather, element 5 in TAKAHASHI is a "bendable portion" of the "elongated tube 4" (see col. 3, lines 10-14). Further, Figure 1 of TAKAHASHI does not show the objective lens 6 or the objective lens system 15 of TAKAHASHI whatsoever, and certainly does not disclose that "first 6 and second 15 optical systems... are fixed in the tip end of inserting tube 5" (emphasis added) as asserted in the Final Official Action.

In TAKAHASHI, "an objective lens 6 is provided in the forward end portion [of the elongated tube 4] as shown in FIG. 6" (see col. 3, lines 15-16), and "an objective lens system 15 is located in the forward end portion [of the elongated flexible tube 14]" (see col. 3, lines 64-68). A channel 11 extends through the elongated tube 4, and the elongated flexible tube 14 is slidably movable in the channel 11 (see col. 3, lines 53-58 and col. 4, lines 16-19). Therefore, there is no proper interpretation of TAKAHASHI as disclosing the objective lens 6 and the objective lens system 15 being located in the same "tip end of said inserting tube" as recited in claim 2.

Figures 6 and 8-9 of TAKAHASHI also do not show the objective lens system 15 whatsoever, and certainly do not disclose that "[b]oth optical systems of Takahashi are fixed within the same inserting tube" 5 as asserted in the Advisory Action. Rather, as noted above, the elongated tube 4 includes a channel 11, and the elongated flexible tube 14 includes the objective lens system 15 located in the forward end portion [of the elongated flexible tube 14] and is slidably movable in the channel 11. The bendable portion 5 is a sectional part of the elongated tube 4. Thus, the objective lens 6 and the objective lens system 15 of TAKAHASHI are not each "fixed in a tip end" of a single inserting tube as recited in claim 2, let alone fixed within the "same inserting tube" 5 as asserted in the Advisory Action.

Claim 2 also recites that "a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube". In contrast, the objective lens 6 in TAKAHASHI is not "fixed in relation" to the objective lens system 15. The Final Official Action defines the term "fixed" as --to place securely: to make stable or firm--. This definition of the term "fixed" in the Final Official Action is overly-broad in the context of claim 2, and provides a meaning in isolation of the context in which the term "fixed" is recited in claim 2. The proper context of the term as recited in claim 2 would require consideration of the phrase

"fixed in relation". Thus, even using the definition set forth in the Final Official Action, the "position of said first optical system" in claim 2 is [stable or firm] "in relation to a position of said second optical system" (emphasis added). However, TAKAHASHI does not disclose that a position of the objective lens 6 is [stable or firm] in relation to a position of the objective lens system 15. Rather, in TAKAHASHI, the second optical system 15 is arranged in the end of an elongated flexible tube 14, and the elongated flexible tube 14 is slidably movable within the channel 11 of the elongated tube 4 in which the objective lens 6 is arranged. Thus, a position of the objective lens 6 in TAKAHASHI is not fixed in relation to a position of the objective lens system 15.

Accordingly, claim 2 is allowable over TAKAHASHI, at least because TAKAHASHI does not disclose or suggest "each and every" feature of this claim as would be required for the rejection of claim 2 under 35 U.S.C. §102 to be proper. Therefore, at least for each and all of the reasons set forth above, the rejection of claim 2 over TAKAHASHI should be reversed.

(2) Claims 3 and 16-18

Claims 3 and 16-18 are also allowable, at least for the reason that these claims depend from an allowable claim 2, respectively, and because these claims recite additional features that further define the invention to which claims 2, 3 and 16-18 are directed. Further, claims 3 and 16-18 are separately patentable over TAKAHASHI which fails to disclose, in the claimed combination, inter alia,

(i) a tip body mounted on a distal end of said inserting tube, said tip body holding said first optical system and said second optical system (claim 3);

(ii) said second optical system is a confocal optical system (claim 16)

(iii) an imaging device provided in said tip end of said inserting tube, and wherein said first optical system forms an image of a target on said imaging device (claim 17); and

(iv) an optical fiber that transmits light returned from the in vivo tissues, only the light from a level of a focal plane of said second optical system being transmitted through said optical fiber (claim 18).

Claim 3

For example, TAKAHASHI does not disclose or suggest a "tip body mounted on a distal end of said inserting tube". Rather, as noted above, the applied portions of TAKAHASHI disclose that an elongated tube 4 includes a channel 11, and the elongated flexible tube 14 includes the objective lens system 15 located in the forward end portion [of the elongated flexible tube 14] and is slidably movable in the channel 11.

Further, TAKAHASHI does not disclose or suggest any such "tip body holding said first optical system and said second optical system". Rather, the objective lens system 15 is provided in the flexible tube 14 which is slidable in the channel 11 of the elongated tube 4.

Accordingly, claims 3 and 16-18 are allowable over TAKAHASHI, at least because TAKAHASHI does not disclose or suggest "each and every" feature of these claims as would be required for the rejection of claim 3 and 16-18 under 35 U.S.C. §102 to be proper. Therefore, at least for each and all of the reasons set forth above, the rejection of claims 3 and 16-18 over TAKAHASHI should be reversed.

(3) Claim 4

Independent claim 4 recites features similar to the above-noted features recited in independent claim 2. In this regard, claim 4 recites "a first optical system fixed in a tip end of said inserting tube", "a second optical system fixed in the tip end of said inserting tube" and "wherein a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube". As set forth above, these features of claim 4 are not disclosed in any of the cited portions of TAKAHASHI.

Claim 4 also recites "said second optical system being arranged such that at least a front end portion thereof is protruded with respect to said first optical system". In contrast, TAKAHASHI does not disclose anywhere that the objective lens system 15 is protruded with respect to the objective lens 6 in the manner of the "second optical system" and "first optical system" of claim 4.

Accordingly, claim 4 is allowable over TAKAHASHI, at least because TAKAHASHI does not disclose or suggest "each and every" feature of this claim as would be required for the rejection of claim 4 under 35 U.S.C. §102 to be proper. Therefore, at least for each and all of the reasons set forth above, the rejection of claim 4 over TAKAHASHI should be reversed.

(4) Claims 5-7, 15 and 21-23

Claims 5-7, 15 and 21-23 are also allowable, at least for the reason that these claims depend from an allowable claim 4, respectively, and because these claims recite additional features that further define the invention to which claims 4, 5-7, 15 and 21-23 are directed. Further, claims 5-7, 15 and 21-23 are separately patentable over TAKAHASHI which fails to disclose, in the claimed combination, inter alia,

(i) wherein said first optical system is arranged such that a front end portion thereof is substantially flush with respect to the end surface of said tip body (claim 5);

(ii) wherein an optical axis of said first optical system and an optical axis of said second optical system are substantially parallel with each other (claim 6);

(iii) wherein said second optical system is arranged not to interfere with a central area of the field of view of said first optical system (claim 7);

(iv) wherein said tip body is formed with an outlet of a forceps channel for introducing a forceps into the human body, and

wherein a cover member of said tip body is formed not to interfere with the forceps protruded from said outlet (claim 15);

(v) wherein said second optical system is a confocal optical system (claim 21);

(vi) an imaging device provided in said tip end of said inserting tube,

wherein said first optical system forms an image of a target on said imaging device (claim 22); and

(vii) an optical fiber that transmits light returned from the in vivo tissues, only the light from a level of a focal plane of said second optical system being transmitted through said optical fiber (claim 23).

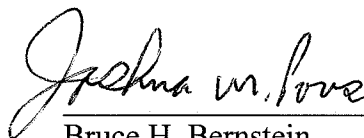
Accordingly, claims 5-7, 15 and 21-23 are allowable over TAKAHASHI, at least because TAKAHASHI does not disclose or suggest "each and every" feature of these claims as would be required for the rejection of claims 5-7, 15 and 21-23 under 35 U.S.C. §102 to be proper. Therefore, at least for each and all of the reasons set forth above, the rejection of claims 5-7, 15 and 21-23 over TAKAHASHI should be reversed.

(8) **CONCLUSION**

Each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. §102, and the present application and each pending claim thereof is allowable over the prior art of record. Accordingly, Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the decision of the Examiner to reject claims 2-7, 15-18 and 21-23 under 35 U.S.C. §102(b).

Should there be any questions about this application, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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CLAIMS APPENDIX

2. An endoscope comprising:

an inserting tube to be inserted into a human body;

a first optical system fixed in a tip end of said inserting tube for observing in vivo tissues within a human body at a first magnification; and

a second optical system fixed in the tip end of said inserting tube for observing the in vivo tissues at a second magnification that is higher than the first magnification,

wherein a portion of said second optical system is within the field of view of said first optical system, and

wherein a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube.

3. The endoscope according to claim 2, further comprising:

a tip body mounted on a distal end of said inserting tube, said tip body holding said first optical system and said second optical system.

4. An endoscope comprising:

an inserting tube to be inserted into a human body;

a first optical system fixed in a tip end of said inserting tube for observing in vivo tissues within a human body at a first magnification; and

a second optical system fixed in the tip end of said inserting tube for observing the in vivo tissues at a second magnification that is higher than the first magnification,

wherein said first optical system and said second optical system are provided on an end surface of a tip body mounted on a distal end of said inserting tube, said second optical system

being arranged such that at least a front end portion thereof is protruded with respect to said first optical system, and

wherein a position of said first optical system is fixed in relation to a position of said second optical system within a single inserting tube.

5. The endoscope according to claim 4, wherein said first optical system is arranged such that a front end portion thereof is substantially flush with respect to the end surface of said tip body.

6. The endoscope according to claim 5, wherein an optical axis of said first optical system and an optical axis of said second optical system are substantially parallel with each other.

7. The endoscope according to claim 5, wherein said second optical system is arranged not to interfere with a central area of the field of view of said first optical system.

15. The endoscope according to claim 4,

wherein said tip body is formed with an outlet of a forceps channel for introducing a forceps into the human body, and

wherein a cover member of said tip body is formed not to interfere with the forceps protruded from said outlet.

16. The endoscope according to claim 2, wherein said second optical system is a confocal optical system.

17. The endoscope according to claim 16, further comprising:

an imaging device provided in said tip end of said inserting tube, and

wherein said first optical system forms an image of a target on said imaging device.

18. The endoscope according to claim 16, further comprising an optical fiber that transmits light returned from the in vivo tissues, only the light from a level of a focal plane of said second optical system being transmitted through said optical fiber.

21. The endoscope according to claim 4, wherein said second optical system is a confocal optical system.

22. The endoscope according to claim 21, further comprising:

an imaging device provided in said tip end of said inserting tube,

wherein said first optical system forms an image of a target on said imaging device.

23. The endoscope according to claim 21, further comprising:

an optical fiber that transmits light returned from the in vivo tissues, only the light from a level of a focal plane of said second optical system being transmitted through said optical fiber.

EVIDENCE APPENDIX

None

P24587.A11

RELATED PROCEEDING APPENDIX

None